

TROPICAL RAINFALL MEASURING MISSION

December 6, 1999 - December 12, 1999

DOY 340 - 346

Day of Mission 739 - 744

TRMM MISSION OPERATIONS

- TRMM is flying in the +X Forward direction as of 99-344, at 19:42:52z.
- The next Yaw maneuver is scheduled for December 24th (99-358).
- Delta-V maneuver #146 is scheduled for December 13th (99-347) using the LBS thrusters.
- The Beta angle range for 99-347 to 353 is +5.4° to +10.2°, peaking at +11.6 on 99-351.
- The next Monthly Status Review is scheduled for 00-012.

TRMM SUBSYSTEM OPERATIONS

Attitude Control System (ACS)

On 99-340 ACS System Table #85, that widens all ephemeris continuity limits, was uplinked so that TDE and 171 EPV vectors would be accepted.

Delta-V maneuver #145 was successfully conducted on 99-343 at 15:58:24z and 16:44:12z, for durations of 39.000 and 30.125 seconds respectively, using the ISP thrusters. The off-modulation of the -Pitch thruster (#6) for burn 1 and 2 was 38.8% and 39.0% (61.2% and 61.0% on time). The remaining fuel is 655.197 kg, and the final apogee and perigee height is 354.70 km x 347.50 km.

A Yaw Maneuver from -X to +X was performed on 99-344 at 19:58:16z.

Flight Data System (FDS)/Command & Data Handling (C&DH)

The frequency standard continues to drift in the negative direction. The frequency remains x77D with a current drift rate of -1.79 μ s/hr. The UTCF remains at 31535996.854485 sec with a current drift value of -430 μ s.

The flywheel dwell incremented to x'115' on 99-341 at 09:57:24z.

EDAC multi-bit errors occurred on 99-341 at 14:33:50z and 15:11:27z, and 99-344 at 18:18:44z.

Q-Channel restarts occurred on 99-342 at 20:33:59z, 99-343 at 04:37:15z and 13:46:09z, and 99-344 at 15:40:41z.

A PR bus error was detected on 99-343 at 21:51:06z due to an incomplete packet.

An Invalid stream Id from XS message (resulting from VIRS) was received on 99-345 at 14:44:07z.

Reaction Control Subsystem (RCS)

The RCS subsystem performed nominally during this period. See the ACS section for specific Delta-V information.

Power Subsystem

The Power subsystem is operating nominally.

Electrical Subsystem

The Electrical subsystem operated nominally during this period.

Thermal Subsystem

The Thermal subsystem operated nominally during this period.

Deployables Subsystem

The Deployables subsystem performed nominally during this period.

RF/Communications Subsystem

The RF/Communications subsystem performed nominally during this period.

SPACECRAFT INSTRUMENTS

CERES

The CCR which involves creating and testing TSMs to monitor the CERES current is expected to be closed out by the end of the year. A walk-through is planned on December 15th for the removal of CERES from load-shed plan and the test results.

Currently plans are to resume operations once the TERRA spacecraft has completed checkout in January 2000. There are no plans to manually remove power from the instrument once operations have resumed.

LIS

LIS performed nominally during this time period.

A requested instrument reset was performed on 99-343. The Heater Auto Select remains disabled pending further MSFC analysis.

PR

PR performed nominally during this time period. The list of Internal Calibration times over Australia in which PR was not radiating is listed below:

1999/340:05:51:30 - 05:54:26z
1999/340:12:21:50 - 12:24:04z
1999/341:12:44:38 - 12:46:45z
1999/342:11:33:04 - 11:35:16z
1999/343:03:52:16 - 03:55:30z
1999/343:11:55:33 - 11:57:40z
1999/344:10:44:12 - 10:46:23z
1999/345:03:02:03 - 03:07:09z
1999/346:09:55:25 - 09:57:34z

TMI

TMI performed nominally during this time period.

VIRS

VIRS performed nominally during this time period.

Outgassing was performed 99-341/14:33z through 99-342/16:59z. The cooler was returned to the nominal 107 K operating temperature.

VIRS solar calibrations were performed on 99-343 at 05:47:48z and 08:50:38z.

GROUND SYSTEM

Testing of release 8.1 continues and is expected to be completed the week of December 13th; and system cleanup will begin the same week.

Event Reports

No new Event Reports were opened during this week.

Generic Late Acquisition Reports (for TTRs 19639)

No new Late Acquisition Reports were opened during this week.

New Anomaly

No new Anomaly Reports were opened during this week.

Recurring Open Anomalies

No recurring anomalies were seen during this period.

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